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AMENDMENTS TO THE CLAIMS

GROUP 3600

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Cont.
1. (Currently Amended) A navigation system comprising:  
an information center having a map database, for receiving information about a present vehicle position and a destination from a navigation terminal, searching out an optimum route between the present position and the destination referring to map data in the map database, and generating route guidance data to guide a vehicle to at least one node point on the optimum route;  
the navigation terminal inside the vehicle having a separate mobile terminal for wirelessly connecting to a wireless communication network and a separate ITS (Intelligent Transportation System) terminal having a GPS (Global Positioning System) device, for calculating the present position of the vehicle, transmitting the vehicle's current position information from the ITS terminal to the information center, receiving the route guidance data from the information center, and announcing a notification message about the node point by voice in a predetermined period before the vehicle passes through the node point, ~~the navigation terminal comprising a mobile terminal~~; and  
a wireless communication network for connecting the information center to the navigation terminal via the mobile terminal wirelessly.
  2. (Original) The navigation system of claim 1, wherein the navigation terminal further provides the notification message about the node point as image data.
  3. (Cancelled)
  4. (Currently Amended) The navigation system of claim 32, wherein the notification message about the node point is announced via the mobile terminal.
  5. (Currently Amended) The navigation system of claim 32, wherein the notification message about the node point is announced via the ITS terminal.

6. (Currently Amended) The navigation system of claim 32, wherein the information about the present vehicle position and destination is input via the mobile terminal.

7. (Currently Amended) The navigation system of claim 32, wherein the information about the present vehicle position and destination is input via the ITS terminal.

8. (Original) The navigation system of claim 1, wherein the information center searches out the optimum route based on traffic information collected in real time as well as the map data.

9. (Original) The navigation system of claim 1, wherein the information center comprises:

a plurality of sensors installed on roads, for collecting traffic information;

a first server for generating real-time traffic information by processing the traffic information collected by the sensors in real time;

a second server for searching out the optimum route between the present vehicle position and the destination based on the map data and the generated real-time traffic information and generating the route guidance data; and

a third server for connecting to the wireless communication network and transmitting the route guidance data to the wireless communication network.

10. (Original) The navigation system of claim 1, wherein the route guidance data further includes information about road type, link type, and angles to roads at an intersection.

11. (Original) The navigation system of claim 1, wherein the node point is one of an intersection, a tollgate, an interchange, and a waypoint in the vicinity of the destination.

12. (Currently Amended) A method of guiding a vehicle's travel in a navigation system having an information center with a map database, a navigation terminal inside the vehicle having a separate mobile terminal for wirelessly connecting to a wireless communication

network and a separate ITS (Intelligent Transportation System) terminal having a GPS (Global Positioning System) device, for calculating a present position of the vehicle and comprising a mobile terminal, and the a wireless communication network for connecting the information center to the navigation terminal wirelessly, comprising the steps of:

transmitting information about the present vehicle position and a destination from the navigation terminal to the information center via ~~the mobile terminal and the wireless communication network~~;

searching out an optimum route between the present vehicle position and the destination based on map data from the map database at the information center;

generating route guidance data for guiding the vehicle to at least one node point on the optimum route at the information center; ~~and~~

transmitting the route guidance data from the information center to the navigation terminal via ~~the mobile terminal and the wireless communication network~~; and

announcing a notification message about the node point by voice in a predetermined period before the vehicle passes through the node point based on the route guidance data at the navigation terminal.

13. (Original) The method of claim 12, further comprising the step of providing the notification message about the node point as image data at the navigation terminal.

14. (Original) The method of claim 12, wherein the optimum route is searched out based on traffic information collected in real time as well as the map data at the information center.

15. (Original) The method of claim 12, wherein the route guidance data further includes information about road type, link type, and angles to roads at an intersection.

16. (Original) The method of claim 12, wherein the node point is one of an intersection, a tollgate, an interchange, and a waypoint in the vicinity of the destination.

17. (Original) The method of claim 12, further comprising the step of requesting new route guidance data from the navigation terminal when the vehicle strays off the optimum route.

18. (Currently Amended) A method of guiding a vehicle's travel in a navigation system having an information center with a map database, a navigation terminal inside the vehicle, having a separate mobile terminal for connecting to a wireless communication network wirelessly and a separate an ITS (Intelligent Transportation System) terminal with a GPS (Global Positioning System) device for calculating a present vehicle position, and the wireless communication network for connecting the information center to the ITS navigation terminal via the mobile terminal wirelessly, comprising the steps of:

transmitting information about the present vehicle position and a destination from the mobile terminal to the information center via the wireless communication network;

searching out an optimum route between the present vehicle position and the destination based on map data from the map database at the information center;

generating route guidance data for guiding the vehicle to at least one node point on the optimum route at the information center; ~~and~~

transmitting the route guidance data from the information center to the mobile terminal via the wireless communication network;

transmitting the route guidance data from the mobile terminal to the ITS terminal; and

announcing a notification message about the node point by voice in a predetermined period before the vehicle passes through the node point based on the route guidance data at the ITS terminal.

19. (Original) The method of claim 18, further comprising the step of providing the notification message about the node point as image data at the mobile terminal.

20. (Original) The method of claim 18, further comprising the step of providing the notification message about the node point as image data at the ITS terminal.

21. (Original) The method of claim 18, wherein the optimum route is searched out based on traffic information collected in real time as well as the map data at the information center.

22. (Original) The method of claim 18, wherein the route guidance data further includes information about road type, link type, and angles to roads at an intersection.

23. (Original) The method of claim 18, wherein the node point is one of an intersection, a tollgate, an interchange, and a waypoint in the vicinity of the destination.

24. (Original) The method of claim 18, further comprising the step of requesting new route guidance data from the navigation terminal when the vehicle strays off the optimum route.

25. (Currently Amended) A method of guiding a vehicle's travel in a navigation system having an information center with a map database, a navigation terminal inside the vehicle having a separate mobile terminal for connecting to a wireless communication network wirelessly and a separate an ITS (Intelligent Transportation System) terminal with a GPS (Global Positioning System) device for calculating a present vehicle position, and the wireless communication network for connecting the information center to the ITS navigation terminal via the mobile terminal wirelessly, comprising the steps of:

transmitting information about the present vehicle position and a destination from the ITS terminal to the mobile terminal and the information center via the wireless communication network;

searching out an optimum route between the present vehicle position and the destination based on map data from the map database at the information center;

generating route guidance data for guiding the vehicle to at least one node point on the optimum route at the information center; ~~and~~

transmitting the route guidance data from the information center to the mobile terminal via the wireless communication network;

transmitting the route guidance data from the mobile terminal to the ITS terminal; and

announcing a notification message about the node point by voice in a predetermined period before the vehicle passes through the node point based on the route guidance data at the ITS terminal.

26. (Original) The method of claim 25, further comprising the step of providing the notification message about the node point as image data at the mobile terminal.

27. (Original) The method of claim 25, further comprising the step of providing the notification message about the node point as image data at the ITS terminal.

28. (Original) The method of claim 25, wherein the optimum route is searched out based on traffic information collected in real time as well as the map data at the information center.

29. (Original) The method of claim 25, wherein the route guidance data further includes information about road type, link type, and angles to roads at an intersection.

30. (Original) The method of claim 25, wherein the node point is one of an intersection, a tollgate, an interchange, and a waypoint in the vicinity of the destination.

31. (Original) The method of claim 25, further comprising the step of requesting new route guidance data from the navigation terminal when the vehicle strays off the optimum route.

32. (Currently Amended) A mobile terminal comprising a navigation system that processes a conventional call by bi-directional communication with a base station when a first mode is set, requests navigation information that satisfies a predetermined condition from an information center, and downloads the navigation information from the information center when a second mode is set.

33. (Previously Added) The mobile terminal of claim 32, wherein the downloaded

navigation information is transmitted to an ITS (Intelligent Transportation System) terminal mounted to a moving object.

34. (Previously Added) The mobile terminal of claim 32, wherein the predetermined condition includes a destination to which the mobile terminal is to be guided.

35. (Previously Added) The mobile terminal of claim 33, wherein the information center includes a map database that provides navigation information by generating route guidance data according to the current position and destination of the moving object.

36. (Previously Added) The mobile terminal of claim 35, further comprising a display for displaying the state of call processing in the first mode and displaying route guidance information processed from the route guidance data by the ITS terminal in the second mode.

37. (Previously Added) The mobile terminal of claim 36, further comprising an input portion for acting as a user interface for call processing in the first mode and a navigation service in the second mode.

38. (Currently Amended) The mobile terminal of claim 37, wherein the input portion is a microphone ~~microprocessor~~.

39. (Previously Added) The mobile terminal of claim 37, wherein the input portion is a touch pad.

40. (Previously Added) The mobile terminal of claim 37, further comprising a keypad for acting as a user interface for call processing in the first mode and a navigation service in the second mode, and key assignment memory areas for assigning keys of the keypad for the first and second modes.

41. (Previously Added) A mobile terminal that transmits data received from an

information

center by wireless communication to an ITS (Intelligent Transportation System) terminal, and transmits data received from the ITS terminal to the information center, comprising:

an input portion for acting as a user interface for a route guiding service in a navigation mode; and

a display for displaying route guidance information received from the ITS terminal.

42. (Previously Added) The mobile terminal of claim 41, wherein when a call is sensed in the navigation mode, the navigation mode is transitioned to a voice call mode and the call is processed in the voice call mode.

43. (Previously Added) The method of claim 18, wherein input of information about the present vehicle position and the destination is carried out by a user selection in a navigation mode.

44. (Previously Added) The method of claim 43, wherein the user selection is carried out by input of a Menu key.

45. (Previously Added) The method of claim 43, wherein the user selection is carried out by input of a key dedicated to transitioning to the navigation mode.

46. (Previously Added) The navigation system of claim 6, wherein the mobile terminal has a Menu key by which a navigation mode is set.

47. (Previously Added) The navigation system of claim 6, wherein the mobile terminal has a key dedicated to transitioning to a navigation mode.

48. (Previously Added) The navigation system of claim 47, wherein the key dedicated to transitioning to the navigation mode is used as a guide key during driving.



49. (Previously Added) The navigation system as in Claim 1, wherein the mobile terminal is removable from the navigation terminal.

50. (Previously Added) The navigation system as in Claim 1, wherein the mobile terminal provides a voice call service.

51. (Previously Added) The method as in Claim 12, wherein the mobile terminal is removable from the navigation terminal.

52. (Previously Added) The method as in Claim 12, wherein the mobile terminal provides a voice call service.

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